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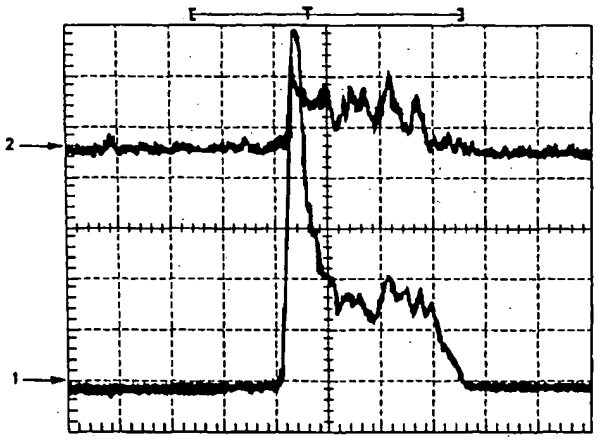

(57) Abstract

An improved instrument that consists of an optical analyser and a fluid switch using light scatter and fluorescence means to optically identify and activate fluidic sorting of multicellular organisms from live populations of organisms such as various life cycle stages of *Caenorhabditis elegans*, the larval stages of *Drosophila melanogaster*, and the embryonic stages of *Danio rero*. In the case where fluorescence from these organisms is very weak, comparatively high levels of electronic noise accompany the electronic signals that are generated by the fluorescence detector and its associated circuitry. Because these weak signals cannot be used to mark the presence of an organism, another, less noisy, signal must be used to gate fluorescence detection. A gate derived from the low-noise light scatter signal from the organism collected over an acceptance angle of at least 20 degrees. Such a light scatter signal unambiguously gates even weak fluorescence signals. These signals can then be correlated with position along the major axis of elongate, multicellular organisms and used as enhanced analysis and sorting parameters.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	US 4 769 776 A (HIRAOKA MASAKATSU ET AL) 6 September 1988 (1988-09-06) abstract ---	1,5,8
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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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Name and mailing address of the ISA	Authorized officer
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